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Connecting Science and Society: Basic Research in the Service of Social Objectives

GERHARD SONNERT, Harvard University

A flawed dichotomy of basic versus applied science (or of “curiosity-driven” vs. “mission-oriented” science) pervades today’s thinking about science policy. This talk argues for the addition of a third mode of scientific research, called Jeffersonian science. Whereas basic science, as traditionally understood, is a quest for the unknown regardless of societal needs, and applied science is known science applied to known needs, Jeffersonian science is the quest for the unknown in the service of a known social need. It is research in an identified area of basic scientific ignorance that lies at the heart of a social problem. The talk discusses the conceptual foundations and then provides some case examples of Jeffersonian-type science initiatives, such as the Lewis and Clark Expedition, initiated by Thomas Jefferson (which led us to call this mode of research Jeffersonian), research conducted under the auspices of the National Institutes of Health, and a science policy project by President Jimmy Carter and his Science Adviser, Frank Press, in the late 1970s. Because the concept of Jeffersonian science explicitly ties basic research to the social good, one of the potential benefits of adding a Jeffersonian dimension to our thinking about science is that it might make science careers more attractive to women and underrepresented minorities.